

CLAIM AMENDMENTS

1. (currently amended): A method to identify and interrogate a region of ~~no more than 1,500 bases in an isolated a single copy of a~~ target nucleic acid molecule, ~~said region to be targeted for interrogation;~~ which method comprises

preparing a reaction mixture containing a sample containing said isolated target nucleic acid molecule and isolated non-target nucleic acid molecules with first and second identification probes that bracket said region wherein the distance between said probes is as little as 1,500 bases,

which first identification probe comprises a first oligonucleotide specific for a sequence immediately upstream of said region coupled to a first particulate label, and

said second identification probe comprises a second oligonucleotide specific for a sequence immediately downstream of said region coupled to a second particulate label;

wherein each of said first and second particulate labels contains at least two fluorophores that emit light of different wavelengths,

wherein said first and second particulate labels are individually observable in ~~a single copy of said the target~~ nucleic acid molecule by microscopy,

displaying the reaction mixture on a surface under a microscope, and

observing the presence or absence of each member of any pairs of the first and second particulate labels as separate points in space, whereby the presence of said pairs identifies said desired region, and

interrogating said region to genotype said single copy of said target nucleic acid.

2-3. (canceled)

4. (previously presented): The method of claim 1, wherein said first and second oligonucleotides are peptide nucleic acids.

5. (currently amended): The method of claim 1, wherein said target nucleic acid molecule is single-stranded and said first and second identification probes comprise oligonucleotides that are complementary to the upstream and downstream sequences bracketing said region.

6. (currently amended): The method of claim 1, wherein said target nucleic acid molecule is double-stranded and said first and second ~~oligonucleotides~~ identification probes form triplexes with said upstream and downstream sequences bracketing said region.

7. (currently amended): The method of claim 1, which is performed simultaneously on a multiplicity of target nucleic ~~[[acids]]~~ acid molecules using a multiplicity of identification probes having particulate labels of differing hues coupled to oligonucleotides comprising sequences complementary to a multiplicity of said immediate upstream and downstream sequences bracketing a multiplicity of such regions.

8-14. (canceled)

15. (currently amended): The method of ~~claim 8~~ claim 1, wherein said target nucleic acid of known sequence is isolated from an organism.

16. (original): The method of claim 15, wherein the organism is an infectious agent.

17. (original): The method of claim 15, wherein the organism is a human subject.

18-47. (canceled)